The Arizona Department of Environmental Quality

Capacity Development Strategy for Existing Public Water Systems

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Table of Acronyms

ACC	Arizona Corporation Commission
ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
ADOT	Arizona Department of Transportation
ADRE	Arizona Department of Real Estate
ADWR	Arizona Department of Water Resources
ALU	Adjacent Land Use
AMWUA	Arizona Municipal Water Utilities Association
ASUA	Arizona Small Utilities Association
AWPCA	Arizona Water Pollution Control Association
BLM	Bureau of Land Management
CCR	Consumer Confidence Report
CO	Community Water System
COG	Council of Governments
DWID	Domestic Water Improvement District
DWS	Drinking Water Section
DWSRF	Drinking Water State Revolving Fund
EPA	Environmental Protection Agency
GPS	Global Positioning System
IOC	Inorganic Contaminant
MAP	Monitoring Assistance Program
MAPER	Monitoring Assistance Program Electronic Reporting
MCL	Maximum Contaminant Level
M/R	Monitoring/Reporting
NPDWSR	National Priority Drinking Water Regulations
NN	Nontransient Noncommunity Water System
PCDEQ	Pima County Department of Environmental Quality
PWS	Public Water System
RIC	Rural Infrastructure Committee
SDW	Safe Drinking Water
SDWA	Safe Drinking Water Act
SWAP	Source Water Assessment Program
SOC	Synthetic Organic Contaminant
SRP	Salt River Project
TN	Transient Noncommunity Water System
VOC	Volatile Organic Contaminant
WHP	Wellhead Protection Program
WIFA	Water Infrastructure Finance Authority of Arizona
WSCC	Water Systems Coordinating Council
WUAA	Water Utility Association of Arizona

Capacity Development Strategy for Existing Public Water Systems

INTRODUCTION

This strategy describes the methods being developed by the Arizona Department of Environmental Quality (ADEQ) to ensure adequate technical, financial, and managerial capacity of existing Public Water Systems (PWS) in the State of Arizona as mandated by Section §1420(c)(2) of the Safe Drinking Water Act (SDWA), amended 1996. Capacity is defined as a water system's ability to consistently provide safe drinking water for its customers. Capacity development is defined as an effort by the state of Arizona to help its drinking water systems improve their infrastructure, management, and financial operations so they can provide safe drinking water consistently, reliably, and cost effectively. In developing and implementing this strategy, the State of Arizona must "*consider, solicit public comment on, and include as appropriate*" the following five elements [§1420(c)(2)(A-E)]:

A. Methods or criteria to prioritize systems.
B. Factors that encourage or impair capacity development.
C. How the State will use the authority and resources of the SDWA.
D. How the State will establish a baseline and measure improvements.
E. Procedures to identify interested parties.

In addition to considering these elements, §1420(b) requires States to "*....prepare, periodically update, and submit to the Administrator a list of community water systems (CO) and nontransient, noncommunity water systems (NN) that have a history of significant noncompliance and, to the extent practicable, the reasons for noncompliance.*" and "*....report to the Administrator on the success of enforcement mechanisms and initial capacity development efforts in assisting [those systems] . . . to improve technical, managerial, and financial capacity,*" by August 6, 2001 [The list and report must be included as part of the State's capacity development

strategy to avoid the withholding of Drinking Water State Revolving Fund (DWSRF) monies, as stipulated in §1452(a)(1)(G)(I)]. This strategy includes the following steps:

1. Collect and evaluate information.
2. Identify factors that encourage or impair capacity.
3. Plan the implementation process.
4. Implement the strategy.
5. Measure results.

Throughout each of these steps, ADEQ will identify and engage interested stakeholders. In addition, this strategy identifies new and existing resources that the State of Arizona may use to improve capacity and discusses the means in which they may contribute to the success of other programs within ADEQ's Drinking Water Section. On the basis of implementation results or concepts that have not yet been proposed, this strategy will be evaluated annually and may be revised and enhanced .

The criteria listed on Table 1 are identified as potential tools that may be used for any of the elements listed in §1420(c)(2)(A-E).

Table 1. Potential Tools to Implement the Five Elements Identified in §1420(c)(2)(A-E)

TOOLS	A. Prioritize	B. Encourage / Impair	C. SDWA Resources	D. Baseline / Improvements	E. Identify Stakeholders
ADEQ Safe Drinking Water Database	x			x	
Annual Financial Reports	x			x	
Public Water System Partnerships		x	x		x
Compliance & Enforcement Data	x			x	
Consumer Confidence Report				x	
WIFA Assistance Priority List	x	x		x	
Electronic Data Reporting		x			
Emergency Operational Plans				x	
Operator Certification	x		x	x	
Stakeholder Meetings and Public Outreach	x			x	x
ACC Rate Earnings and Recovery Audit	x			x	
ADWR Active Management Area Plans		x		x	
Sanitary / Infrastructure Surveys	x			x	
Self-Assessment and 2000 Survey	x			x	x
SWAP & Monitoring Waivers	x	x	x		
Technical Assistance	x			x	
Water Conservation Plans		x			
Wellhead Protection Plans		x	x	x	

1.0 IDENTIFICATION AND PRIORITIZATION CRITERIA

...."(A) *The methods or criteria that the State will use to identify and prioritize the public water systems most in need of improving technical, managerial, and financial capacity.*"....

Before prioritizing PWSs, an inventory of systems affected by this strategy must be conducted. Following the inventory of existing PWSs, the criteria for prioritizing will begin with a review of the following data:

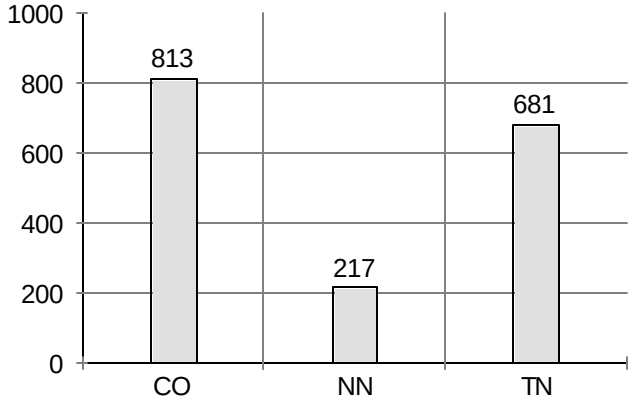
1. Number and Type of PWSs
2. Population Served
3. Number of Enforcement Actions and or Compliance Violations
4. WIFA Assistance Priority List
5. Stakeholder Meetings / Public Outreach
6. Sanitary Survey Results
7. Certified Operator Status
8. Source Water Assessment Program (SWAP) data
9. Rate Audits for Systems Regulated by the Arizona Corporation Commission (ACC)
10. Survey 2000 and Self Assessment Survey
11. Owner Type
12. Annual Financial Reports
13. Techical Assistance
14. Consecutive Indicator

Item numbers 1, 2, 3, 7, 8, 11, and 12 exist in the current Arizona Safe Drinking Water (SDW) database. The SDW database allows for relational database queries. The queries may be easily saved or exported to a spreadsheet allowing 'user friendly' retrieval and maintenance of the data. Various combinations of data may be analyzed to determine the best system for ranking public water systems for capacity development program eligibility.

1.1 Number and Type of PWSs

There are a total of approximately 1,711 active PWSs operating in the State of Arizona that are affected by this strategy (the total number changes daily through a combination of system mergers and systems changing status from active to inactive and vice versa). Of this total, 813 systems are community water systems (CO), 217 systems are nontransient noncommunity water systems (NN), and 681 systems are transient noncommunity water systems (TN) as shown on Figure 1.

Figure 1. Total Systems



Source: ADEQ Safe Drinking Water Database, May 2000

1.1.1 Community Water Systems

A community water system means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. These are usually systems supplying water to trailer parks, residential subdivisions, etc. A CO will be assigned a higher priority than an NN or TN.

1.1.2 Nontransient Noncommunity Water Systems

A non-transient non-community water system means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year. These systems are usually schools, places of employment, etc. An NN will be assigned a priority lower than a CO but higher than a TN.

1.1.3 Transient Noncommunity Systems

A transient non-community water system means a noncommunity water system that does not regularly serve at least 25 of the same persons over six months of the year. These systems are usually restaurants, rest areas, etc. In general, on the basis of the population served by TNs, and since a TN samples only for acute contaminants (i.e. nitrate, nitrite, and total coliform) the Department will assign a low priority to these systems. It is likely that most of these systems could improve their capacity by simply adhering to minimum guidelines established by the Drinking Water Section staff. ADEQ intends to develop a "one size fits all" policy approach to improving the capacity for systems falling under this classification.

1.2 Population Served

Excluding transient noncommunity water systems, PWSs serving 10,000 persons or less supply drinking water to approximately 15% of the population in Arizona (Fig. 2). However, these systems comprise nearly 95% of the total number of PWSs (Fig.3). In addition, approximately 69% of the PWSs (CO, NN) directly affected by this strategy serve 500 persons or less.

Figure 2. Population Served

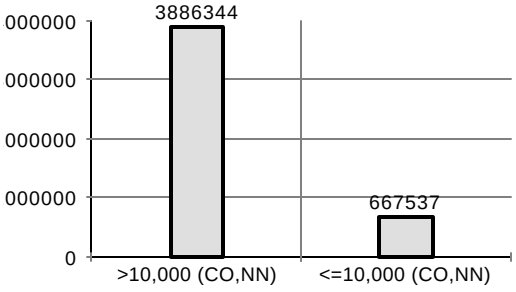
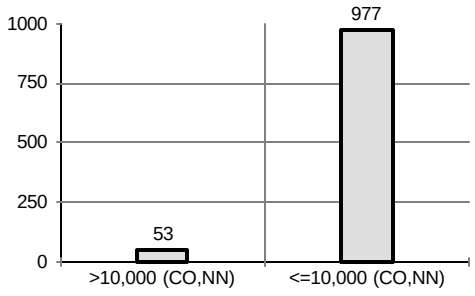


Figure 3. Number of Systems



On the basis of number and frequency of customers served, and the presence of a municipal tax base to support public employees, Public Water Systems that serve more than 10,000 persons are considered a lower priority. Exceptions may exist. For example, many municipal systems are not financially self-sufficient and may rely on municipal general fund subsidies to sustain operations. Therefore, those systems that serve more than 10,000 persons and are subsidized by general funds should not be automatically considered a low priority. If the economy should slow, municipal sales tax collection and state sales tax collections that are shared with municipalities would decline. Since sales tax revenue accounts for a substantial part of a municipal general fund, the municipal water system that relies on these funds could be vulnerable to reduced capacity.

1.3 Number of Enforcement Actions and/or Compliance Violations

Enforcement actions are a serious threat to consumers being served by a delinquent system. Public water systems under consent orders are a high priority. A high number of current and/or previous violations may increase the system priority.

Compliance violations to be considered may include sampling & reporting violations, exceeding triggers or Maximum Contaminant Level (MCL) concentrations, and notices of violations or corrections. A PWSs priority increases proportionally to the number of violations.

1.4 WIFA Assistance Priority List

In order to eliminate duplicating efforts and to gain an understanding about prioritizing systems for assistance, ADEQ will meet with staff from the Water Infrastructure Financing Authority (WIFA) to determine the process WIFA staff use when deciding which system receives aid first. ADEQ will use the information to possibly lower a systems priority if the system already is receiving aid through another program.

1.5 Stakeholder Meetings / Public Outreach

This subjective tool is used to provide first-hand knowledge about what the public water system owners and operators perceive as being the most important problem. Caution must be used to determine whether a problem is industry-wide or pertains only to a specific system.

1.6 Sanitary Survey Results

The current condition of a PWS's infrastructure will assist in assigning priority. A sanitary survey will evaluate the water source, facilities, equipment, and operation and maintenance of a PWS. A system that has an outdated infrastructure due to lack of positive cash flow may be a higher priority than a system that has an outdated infrastructure due to owner negligence.

1.7 Certified Operator Status

A public water system must have a certified operator of the correct type and grade based on system classification. Prioritization may be determined by certified operator status. A system that does not

have a certified operator or a remote operator would have a higher priority than a system that has an on-site operator.

1.8 Source Water Assessment Program Data

Spatial data collected by a global positioning system (GPS) for adjacent land uses (ALU) in the Source Water Assessment Program may assist the prioritization process by identifying sensitive aquifers, unreported ALUs, and systems that are not taking full advantage of the waiver program.

1.9 Rate Audits for Systems Regulated by the Arizona Corporation Commission (ACC)

For non-governmental water systems under the jurisdiction of the Arizona Corporation Commission (ACC), the ACC will play an important role working with ADEQ to determine whether systems have sufficient rates for capacity development purposes. Many non-governmental PWSs and all governmental PWSs fall outside the jurisdiction of the ACC.

1.10 Survey 2000 and Self Assessment Survey

A short survey will be used to get an initial understanding of the number and types of water systems affected by this strategy. For additional information, see Section 4.5.

1.11 Owner Type

The type of PWS owner may be included in the prioritization process. Since capacity is defined as a water systems ability to consistently provide safe drinking water for its customers, an owner's decisions may directly effect maximizing this capacity. The following codes for owner types are currently used as input parameters in the Arizona's SDW database:

A Limited Partnership
C Corporations & Limited Liability Companies (not ACC regulated)
D Domestic Water Improvement District / Irrigation District
E National Forest Service Land
F Federal Agencies
G General Partnerships
H School Districts
K National Park Land
L Colleges and Universities
M Municipalities

N County Agencies

P ACC Regulated Utilities

R Revoked / Defunct Corporations

S State Agencies

T Trusts

U Unincorporated Sole Proprietor (not ACC regulated)

W Unincorporated Water Associations (not ACC regulated)

X Not Yet Determined

Z Receivership

2 Annual Financial Reports

A PWSs technical and managerial capacity deficiencies may be directly related to its financial capacity deficiencies. A review of the accounting data for a PWSs may provide information that could have a simple remedy such as raising water rates.

1.13 Technical Assistance

A PWS may be aware of the technical assistance program but unaware of the capacity development program (See Section 2.1.1 on additional information about technical assistance). The information provided by a PWS for technical assistance may be used for prioritizing that system.

1.14 Consecutive Indicator

The consecutive indicator parameter is used as a subclassification in the safe drinking water database for a public water system that obtain all of its water from another public water system that is regulated by the Department. Although this is not part of the primary criteria for the PWS prioritization list, it is incorporated into database queries to identify those systems that do little or no sampling. The consecutive indicator classifications are:

0 PWS is not consecutive (default)

1 Not required to monitor any contaminants

2 Required to monitor ALL contaminants

3 Required to monitor for Total Coliform only

4 Required to monitor for inorganic contaminants only

5 Required to monitor for Total Coliform and inorganic contaminants only

6 Unregulated PWS

7 Active - Regulated by EPA or others

1.15 Preliminary PWS Inventory and Prioritization

Preliminary inventory/prioritization tables are listed in Appendix A. The PWS inventory is divided into five groups consisting of:

1. PWSs (CO, NN) serving more than 10,000 persons,

2. PWSs (CO, NN) serving 10,000 persons or less,

3. State & Federal PWSs (CO, NN), and

4. PWSs (TN).

PWSs within each group are sorted by the following criteria in order of descending hierarchy:

1. Drinking Water Source (surface water is higher priority than groundwater)

2. System Type (CO higher than NN higher than TN)

3. Population (lower population is higher priority)

These four lists are for grouping and inventory purposes ONLY and are NOT final prioritization lists. Additional research and analysis must be conducted before a final list is developed. Since PWSs have different capacity requirements, a master list may not be practical. Therefore this strategy may be applied to any and all lists simultaneously.

2.0 REGULATORY FACTORS THAT ENCOURAGE / IMPAIR CAPACITY DEVELOPMENT

...."(B) *A description of the institutional, regulatory, financial, tax, or legal factors at the Federal, State, and local level that encourage or impair capacity development.*"....

2.1 Factors That Encourage Capacity Development

2.1.1 Technical Assistance and Other Local Funding

ADEQ is working on its own rules package to distribute monies from the technical assistance program. A rules package is expected to take effect in the spring of 2001. The State of Arizona has a technical assistance program in place through the Water Infrastructure Finance Authority (WIFA). Currently, ADEQ is partnering with WIFA to fund capacity development assistance activities from the State Revolving Fund set aside. ADEQ is coordinating with WIFA to ensure that efforts are not duplicated by the two agencies.

2.1.2 Monitoring Assistance Program

In designing this capacity development strategy, the Drinking Water Section is evaluating data from the Monitoring Assistance Program (MAP) and waiver programs. MAP provides for the collection, transportation, analysis, and reporting of baseline volatile organic contaminants (VOCs), synthetic organic contaminants (SOCs), and inorganic contaminants (IOCs) for regulated public water systems serving 10,000 persons or less. The public water systems are still responsible for collecting, analyzing, and reporting asbestos, lead, copper, nitrate, nitrite, microbiological (total coliform) and

radiochemicals.

MAP is mandatory for public water systems serving 10,000 persons or less and optional for water systems serving populations greater than 10,000 persons or water systems owned by state and federal agencies. In addition, consecutive public water systems (those systems that serve water purchased from another public water system) are excluded from MAP. One of the primary objectives of MAP is to bring the participating public water systems into compliance with the Safe Drinking Water Act Monitoring and Reporting Requirements.

This program is a key factor in making sure that sampling and reporting violations are virtually eliminated. The program is responsible for filling important data gaps for many of the participating PWSs.

2.1.3 Waiver Program

The waiver program works in conjunction with MAP to achieve compliance with Safe Drinking Water Act Monitoring and Reporting Requirements. A waiver may reduce the type and frequency of sampling for a system. A waiver is granted by ADEQ to a public water system to allow reduced sampling for certain groups of contaminants. Waivers are granted based on use, susceptibility, treatment type, or by rule. The intent of a waiver is to minimize the cost of monitoring through reduced sampling without compromising public health.

Prior to implementing MAP, fewer than 25% of public water systems applied for reduced monitoring under the waiver program. Currently, waivers are issued to more than 75% of the public water systems that qualify. This not only saves money for MAP but also reduces the number of sampling and reporting compliance violations, thus allowing valuable resources to focus on other assistance activities.

2.1.4 Source Water Assessment Program

The Source Water Assessment Program (SWAP) is an important part of this capacity development strategy. The SWAP is an inventory process for systems and assists systems in qualifying for waiver eligibility. By using the data collected for the SWAP program, ADEQ is able to identify adjacent land uses within the designated ½-mile radius. On the basis of this information, ADEQ may initiate and grant waivers for contaminant groups on behalf of the PWSs (It also forms a starting point for small public water systems to implement a wellhead protection program). The SWAP program is also an effective tool in educating water systems of the hydrological characteristics of their system and how land use planning decisions can incorporate water quality concerns.

2.1.5 Wellhead Protection Program

The Wellhead Protection Program (WHP) is a voluntary program available from the Drinking Water Section, Monitoring and Assessment Unit. The WHP is practical pollution prevention focusing on the well or well field of a system. ADEQ staff provide technical support and coordinate community activities for WHP activities. A wellhead protection program is important for capacity development for all PWSs regardless of size.

2.1.6 Electronic Reporting, e-schedules and other Web-based Information Access

The objective of disseminating information to the public and regulated community in an efficient and effective manner is two-fold. For example, the primary objective of making information readily available is to increase compliance. Secondly by making this information available through the Internet, the burden of retrieving this information by staff personnel is removed allowing valuable human resources to focus on other activities. Some of the information being evaluated or currently available for web publishing include:

- sampling schedules,
- consumer confidence report data,
- list of operator certificate expiration,
- the list of contaminants for source water approval, and
- the list of approved analytical laboratories

ADEQ is in the process of developing an electronic reporting format for systems participating in MAP. The Monitoring Assistance Program Electronic Reporting (MAPER) program will enable a PWS or their laboratory representative to submit analytical data in an electronic format. This process will eventually be extended to all PWSs.

Currently, public water systems may connect to the ADEQ website to review MAP schedules. Since MAP only monitors for regulated IOCs, VOCs, and SOCs, the Drinking Water Section proposes to expand the on-line schedules to include all regulated and unregulated contaminants that require monitoring by all public water systems for purposes of improving sampling accuracy and thus improving system capacity.

2.1.7 Interagency Cooperation

Fiscal reports for public water systems are available from the ACC (most non-governmental PWSs) and through WIFA. By sharing data and resources, PWSs may benefit through the advice of financial analysis methods provided by these cooperating agencies and thus may be applied to this capacity development strategy. For example, ADEQ is in the process of working with the ACC to identify factors in the ACC rate approval process governed by internal policy. This may result in changes to the process for rate approval for small systems to increase financial capacity. An interagency relationship based on capacity development provides an opportunity to develop long-term relationships with the aforementioned agencies as well as other government agencies to enhance mutual program administration.

2.1.8 Sanitary Surveys

Sanitary surveys are conducted triennially for each public water system. Sanitary surveys may be used in combination with other methods to assess system capacity. In addition, on the basis of a systems technical capacity, some systems may eligible for reduced monitoring.

2.2 Factors That Impair Capacity Development

Drinking Water Section staff acknowledge program impairments and plan to remove program obstacles wherever possible.

2.2.1 Complexity of the Safe Drinking Water Act

The obvious complexity of the Safe Drinking Water Act (SDWA), although necessary, inhibits capacity development. A frequent comment from public water system personnel is, "I don't know what the rules are and by the time I find out, they've changed." Consider the following information:

The National Primary Drinking Water Standards contains 178 pages of regulations in Title 40, Code of Federal Regulations, Chapter I, Part 141, Subparts A through P. The statutes governing potable water in Arizona contains 10 pages of regulations in Title 49, Article 9 of the Arizona Revised Statutes (A.R.S.). The rules administered by ADEQ for Safe Drinking Water contains 80 pages of regulations in Title 18, Chapter 4, of the Arizona Administrative Code (A.A.C.). Public Outreach in the form of rules training for public water system personnel is an important part of this capacity development strategy that can be implemented quickly.

2.2.2 Regulatory Changes

Understanding the regulatory language of the Safe Drinking Water Act, A.R.S. §§ 49-351 through 49-360, and A.A.C. R18-4-101 through R18-4-607 is an intimidating task for the small water system owner. Add to this task the annual regulatory changes that may take place most notably at the state level and a clearer picture emerges of the regulatory obstacles facing the small public water systems.

2.2.3 Arsenic

The proposal by EPA to reduce the maximum contaminant level (MCL) of arsenic from 50 Fg/L to 5 Fg/L may put an enormous strain on the financial and technical capacity of the majority of water systems in Arizona. The result of the proposal could be an increase in the number of public water systems out of compliance without relief from variances or exemptions. In addition, arsenic treatment may increase the treatment complexity of many small water systems which may effect the status of their certified operator.

2.2.4 Proposed Groundwater Rule

The decision to mandate public water systems serving 10,000 persons or less from a groundwater source to disinfect the water before distribution will strain the financial and technical capacity of small public water systems in Arizona. The result of this proposal may increase the number of small public water systems out of compliance. In addition, disinfection may increase the treatment complexity of many small water systems which may effect the status of their certified operator.

2.2.5 Legal and Financial Issues Associated with Water Rights

This factor has not been thoroughly analyzed and therefore it may or may not be feasible for this strategy. As this strategy is implemented data or ideas may emerge that will assist the capacity development staff to determine the importance of this section.

2.2.6 A Lack of Reciprocity for Operator Certification

This factor has not been thoroughly analyzed and therefore it may or may not be feasible for this strategy. As this strategy proceeds and the new operator certification rules go into effect, other factors may assist the capacity development staff to determine the importance of this section.

2.2.7 Lack of Access to Compliance Information and Monitoring Schedules

See Section 2.1.6

2.2.8 Program Costs

This factor is difficult to assess at this point in the implementation schedule. Stakeholders and other funding mechanisms may emerge that could increase or reduce the program costs. As this strategy is implemented data or ideas may emerge that will assist the capacity development staff to determine the importance of this section.

2.2.9 Deficient Revenue Streams

Small public water systems not regulated by the ACC feel they cannot raise their water rates to cover costs. The Department in conjunction with the public water system may have to educate the system's consumers about the importance of having a cash reserve on hand for emergencies.

2.2.10 Barriers to Exclusions (waivers)

This factor has not been thoroughly analyzed and therefore it may or may not be feasible for this strategy. As this strategy is implemented data or ideas may emerge that will assist the capacity development staff to determine the importance of this section.

3.0 USE OF §1420(C)(2) AUTHORITY & RESOURCES

...."(C) A description of how the State will use the authorities and resources of this title or other means to:

(i) assist public water systems in complying with national primary drinking water regulations,

(ii) encourage the development of partnerships between public water systems to enhance the technical, managerial, and financial capacity of the systems, and

(iii) assist public water systems in the training and certification of operators"....

In general, this strategy will attempt to improve the capacity of public water systems by determining which systems require the most assistance through the use of a prioritization list, and then providing the specific type of assistance. However, there are those systems which will not require assistance but may be able to provide assistance through mentoring or training. In addition, there may be capacity development tasks that provide a benefit to ALL public water systems regardless of their place on the prioritization list. An approach to implementing the strategy may be to work the prioritization list from both ends while simultaneously completing those informational tasks that benefit all systems.

3.1 Assist PWSs to Comply with National Priority Drinking Water Regulations (NPDWR)

Coordinate public meetings with existing stakeholders (e.g., see Sec. 5.2, ASUA, AWPCA, RWA, etc.) that provide training for owners, operators and consumers about the drinking water rules, operator certification rules, and other program rules that affect public water systems. Many of these stakeholder organizations receive significant amounts of federal funding to perform training similar or identical to those proposed in this strategy.

The Department will also work with small public water systems to prepare them for changes in the SDWA and rules that directly impact their operations such as the proposed changes in the MCL for arsenic and the groundwater rule. In addition to long-term solutions, ADEQ may look at short-term solutions until technical expertise or funding is available, to assist as many systems as possible. Possible short-term solutions may include variances or exemptions for systems with minor system violations or deficiencies.

3.2 Build Capacity Through Data Collected by SWAP

See Section 2.1.4

3.3 Develop Partnerships Between PWSs to Enhance System Capacity

Coordinate with stakeholder groups (Section 5.2) to encourage and develop a volunteer mentor program for large complex PWSs to provide 'pro bono' technical or managerial assistance to small PWSs. Encourage small PWSs in nearby regions to assist each other in daily operations and maintenance of systems. Furthermore, there must be an incentive created for this function to work properly. For example, linking operator certification to mentoring may result in the mentor and trainee receiving credit for continuing education hours. The mentoring process would presumably have a

'value' that may create a career or financial incentive to volunteer.

3.4 Flexible Rules for Operator Certification

On the basis of guidelines from the EPA, ADEQ Drinking Water Section staff are developing new Operator Certification rules which are expected to go into effect February 2001. The new rules will allow Operator Certification training and testing to be administered by third party entities. The intent is to increase training and testing opportunities for certified operators statewide. The ADEQ Drinking Water staff is proposing criteria for Water Distribution Grade 1 as a minimum classification for a PWS. This new definition is more appropriate for a typical small Arizona water system operator for a system that meets the following criteria:

- Population <=500
- Groundwater Source
- Chlorination only
- Storage Tank(s)

4.0 ESTABLISHING BASELINES & MEASURING IMPROVEMENTS

...."(D) A description of how the State will establish a baseline and measure improvements in capacity with respect to national primary drinking water regulations and State drinking water law."....

Establishing a baseline and measuring improvement is critical to administering a successful program. ADEQ intends to establish baselines from either 1998 or 1999 data. Capacity improvement can be measured immediately for the PWSs under Arizona's jurisdiction in a relatively generalized manner. This will enable the program to produce and submit a report to the Governor on the success of the capacity development strategy and progress made toward improving the technical, managerial, and financial capacity of PWSs in Arizona. However, some aspects of capacity development outlined in this strategy may take several years before improvements can be measured. ADEQ intends to discriminate between factors that indicate immediate improvement and those which will occur over a period of years. The focus is on improving actual capacity for existing systems, while minimizing an academic statistical approach. The following are possible approaches to measuring capacity:

4.1 Outreach Activity

Effectiveness in reaching water systems may be measured by the number of outreach activities planned, the number of sanitary surveys conducted on an annual basis, the number of Comprehensive Performance Evaluations conducted, amount of technical assistance provided, and number of completed water system plans or self-assessments. ADEQ will ensure that these activities are helping PWSs achieve capacity and once milestones are completed, maintain capacity.

4.2 Operator Certification

Arizona will assess the prevalence of certified operators who have the training necessary to improve the capacity of the systems they operate. ADEQ shall encourage on-site owners to become certified operators of their systems to eliminate the need for a remote operator.

4.3 Planning Mechanisms

ADEQ will use the results of self-assessments, water system plans, annual financial reports, or simplified budgeting worksheets to measure improvements in capacity. This requires a baseline measure of all systems at the time when the capacity development implementation efforts begin and a method to update system assessments regularly.

4.4 Current Compliance Data

Since the statute includes capacity with respect to national primary drinking water regulations, analyzing compliance trends including minor and major deficiencies is a useful way to measure improvements in capacity. The baseline will be compliance data from the calendar quarter when the capacity development efforts began. Variables such as the number of systems in significant noncompliance, number of exceedances, number of M/R violations, and time required to achieve compliance could be used as indicators of capacity.

4.5 Assessment Surveys

ADEQ plans to develop and use written surveys to assess and prioritize the capacity of PWSs. ADEQ has contacted CADMUS to assist in creating and evaluating survey tools to establish a baseline and to assess systems that are targeted for immediate capacity development assistance. CADMUS is developing an in-depth survey tool that will assess each targeted PWS in detail for Capacity Development issue identification.

4.5.1 Survey 2000

Scheduled for release in August 2000 is a short list of questions called Survey 2000. To improve the response from PWSs owners, Survey 2000 will be printed on a postage paid 4-in. x 6-in. card. The value of the data is to immediately provide assistance to improve managerial capacity for small PWSs. In addition, Survey 2000 is intended to provide information to establish baseline data and may also be conducted annually to measure strategy success.

PWSID # :_____PWS Name:_____
Telephone: (____)_____e-mail address:_____
1) Check all PWS classifications and grades that apply to your system.
9 Water Distribution **9** 1 **9** 2 **9** 3 **9** 4 **9** don't know
9 Water Treatment **9** 1 **9** 2 **9** 3 **9** 4 **9** don't know
2) Do you treat your water? **9** YES **9** NO **9** don't know
3) My system employs: **9** on-site operator **9** remote operator **9** no operator
4) Does your system have a written operations & maintenance plan? **9** YES **9** NO
5) What is the condition of your system's infrastructure?
9 poor **9** adequate **9** excellent **9** don't know
6) Does your system have a written list of employees' job descriptions? **9** YES **9** NO
7) Does your system have a written emergency response plan? **9** YES **9** NO
8) Does your system prepare an annual budget that itemizes income & expenses?
9 YES **9** NO
9) Does your system have a cash reserve for emergencies? **9** YES **9** NO
10) Do you own a computer? **9** YES **9** NO
If NO, do you plan on purchasing one within the next year? **9** YES **9** NO
If YES, do you have or will you have access to the Internet? **9** YES **9** NO
11) To comply with the Safe Drinking Water Act my system needs:
9 financial aid **9** technical support **9** managerial help **9** none
12) Would you participate in a detailed survey? **9** YES **9** NO

4.5.2 In-depth Survey

An in-depth survey is currently under development to provide a more accurate picture of the capacity of Arizona's public water systems. Implementation is scheduled for late 2000 or early 2001.

5.0 IDENTIFYING ACTIVE STAKEHOLDERS

...."(E) An identification of the persons that have an interest in and are involved in the development and implementation of the capacity development strategy (including all appropriate agencies of Federal, State, and local governments, private and nonprofit public water systems, and public water system customers)."....

5.1 Stakeholder/Public Meetings

The Arizona Department of Environmental Quality has concluded that public meetings are an excellent forum to engage public water system owners and operators in discussion about capacity development strategies. ADEQ will consider stakeholder recommendations as the implementation activities develop. The annual report on this strategy will discuss stakeholder input and the feasibility of using stakeholder input for capacity development tasks.

Three public meetings were held at regional locations to meet with PWS owners and operators. The general public was also invited to attend and participate in the discussions. The ADEQ Communications Office issued press releases statewide to inform the communities about these workshops. The Drinking Water Section mailed over eight-hundred meeting notices to PWS owners. Other stakeholders, including public and private entities, were invited to participate in these meetings. Capacity Development materials, including this draft strategy, were available on the ADEQ website for review prior to our meetings.

5.1.1 Stakeholder Meeting #1, Tucson, AZ

On June 9, 2000, the first of three initial stakeholder/public meetings was held at Tucson City Council Chambers, 255 W. Alameda St., Tucson, AZ from 9:00 a.m. until 12:00 Noon. Suggested additions to the capacity development strategy included:

- Potential liability from information contained in the Consumer Confidence Report (CCR),
- Water Conservation as it pertains to the individual PWSs,
- Conducting training on existing Arizona Drinking Water Rules and Programs.

5.1.2 Stakeholder Meeting #2, Phoenix, AZ

On June 30, 2000, the second stakeholder/public meeting was held at Arizona Department of Environmental Quality, 3033 N. Central, Phoenix, AZ from 9:00 a.m. until 12:00 Noon. Suggested additions to the capacity development strategy included:

- Improving PWS and laboratory access to ADEQ reporting forms on the website,
- Consider linking the Capacity Development Strategy to Governor Hull's Groundwater Management Study,
- Implementing a tiered approach to assist PWSs plan for anticipated growth,
- Improve interagency communication.

5.1.3 Stakeholder Meeting #3, Prescott, AZ

On July 7, 2000, the third stakeholder/public meeting was held at the Yavapai County Council Chambers, 201 S. Cortez Street, Prescott, AZ from 9:00 a.m. until 12:00 Noon. Suggested additions to the capacity development strategy included:

- Initiate a Memorandum of Understanding (MOU) between state agencies for capacity development,
- Encourage system consolidation,
- Improve access to data through conventional means (i.e. NOT Internet),
- Enhance person-to-person contacts,
- Find out how many PWS that have access to a computer,
- Provide an annual detailed monitoring schedule,
- Streamline ACC rate cases,
- Provide backflow assistance,
- Increase ACC rule / policy flexibility for infrastructure improvements.

5.2 Potential Stakeholders Identified by ADEQ

This is a list of potential stakeholders that the ADEQ capacity development staff has identified. Many of these groups may have a prominent roll in implementing this strategy and may have access to programs that could enhance this strategy.

- Water Systems Coordinating Council (WSCC)
- Water Utility Association of Arizona (WUAA)
- Small Water System Owners / Operators
- Arizona Department of Transportation (ADOT)
- Arizona Department of Health Services (ADHS)
- Bureau of Land Management (BLM)
- Rural Infrastructure Committee (RIC)[1]
- Agricultural Business Council
- Water Users Association
- Arizona Small Utilities Association (ASUA)
- Arizona Water Pollution Control Association (AWPCA)
- Arizona Municipal Water Utilities Association (AMWUA)
- Water Infrastructure Finance Authority (WIFA)

[1]Participants of the RIC committee include representatives form many entities including, but not limited to, EPA, ADEQ, ADWR, the state's councils of governments, county representatives, Arizona Department of Commerce, and ASUA.

- Arizona Corporation Commission (ACC)
- Arizona Department of Water Resources (ADWR)
- Arizona Department of Real Estate (ADRE)
- Realtor's Organizations
- Rural Development
- Maricopa County
- Pima County Department of Environmental Quality (PCDEQ)
- Salt River Project (SRP)
- Irrigation Districts
- Domestic Water Improvement Districts (DWIDs)
- National Forest Service
- Arizona Department of Agriculture
- Arizona State Parks
- National Parks Service

6.0 STRATEGY IMPLEMENTATION

6.1 Current Status

The ADEQ Drinking Water staff met with State and EPA representatives from Regions 7, 8, 9 and 10 in April 2000. The staff regularly participates in conference calls with state and federal participants exchanging information and discussing Capacity Development Strategy issues.

Tool development, particularly for system measurement, is already underway with a third party contractor furnished by EPA. Prioritization tools are being researched with other state agencies, and with public and private entities that wish to participate in Capacity Development for public water systems in Arizona.

6.2 Implementation Schedule

This strategy is being implemented now and several tasks are being worked on concurrently. Prioritizing systems is the main focus followed closely by understanding the funding available and how it is administered. Rules training presentations are being developed and scheduled with both internal and external stakeholders. A Gantt chart of the implementation schedule is included in Appendix B.